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EXAMINER	
DINH, KHANH Q	

ART UNIT	PAPER NUMBER
2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/872,056	CHEN, SHIGANG	
	Examiner	Art Unit	
	Khanh Dinh	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6 and 8-33* is/are rejected.

7)☒ Claim(s) *5 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to the Amendment and Reply filed on 3/1/2005. Claims 1-33 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6 and 8-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joffe et al. (hereafter Joffe), US pat. No.6,185,619 in view of Boden et al., US pat. No.6,167,444 (hereafter Boden).

As to claim 1, Joffe discloses a method for implementing management policies on a network using topology reduction, the network including at least a first domain having a plurality of network elements, the method comprising:

determining one or more management components in the network (managing network access points, see col.9 lines 26-59).

determining two or more management domains, wherein each (a) is bounded, in the network, by one or more of the management components and (b) does not contain any management components (load manager components, see fig.3A, col.9 line 60 to col.10 line 64 and col.11 lines 27-65).

determining a communication path passing through the first domain of the network that characterizes the first domain as a node (content server 214 fig.2A), the communication path being characterized to pass communications without information loss (see fig.2A, abstract, col.9 line 26 to col.10 line 9).

Joffe does not specifically disclose implementing a management policy for the network using the communication path. However, Boden discloses implementing a management policy for the network using the communication path (using the Routing Information Protocols for exchanging routing information as a distance vector to determine the best routing path, see abstract, fig,1, col.4 lines 19-61 and col.6 lines 5-62). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to implement Boden's teaching into the computer system of Joffe to process data routing because it would have avoided overuse of a particular host by increasing usages of routes with higher metrics in a communications network.

As to claims 2 and 3, Joffe discloses implementing a firewall configuration on the communication path (each system gateway having a firewall, see fig.1C, col.7 lines 12-58) and including through the first domain includes identifying a second domain for a source element of a communication that uses the communication path, and identifying a third domain for a destination element for the communication, the second and third domain each including plurality of network elements (each content server has multiple routers, see fig.3A, col.10 lines 10-64 and col.11 lines 24-65).

As to claim 4, Joffe discloses determining a communication path passing through the first domain (from the first content server 214 fig.2A) includes identifying a second domain for a source element of a communication that uses the communication path, the second domain including a plurality of network elements (routers) and identifying a third domain for a destination element for the communication (choosing the least load content server machine in response to an incoming request, the third domain including a plurality of network elements (routers) (see fig.2A, col.12 line 56 to col.13 line 46). Joffe does not specifically disclose characterizing a portion of the communication path within the second domain as a distance between the source element and an interface to the second domain, the portion of the communication path within the second domain being characterized without information loss. However, Boden discloses characterizing a portion of the communication path within the second domain as a distance between the source element and an interface to the second domain, the portion of the communication path within the second domain being characterized without information loss (using the Routing Information Protocols for exchanging routing information as a distance vector to determine the best routing path, see abstract, fig,1, col.4 lines 19-61 and col.6 lines 5-62). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to implement Boden's teaching into the computer system of Joffe to process data routing because it would have avoided overuse of a particular host by increasing usages of routes with higher metrics in a communications network.

As to claim 6, Joffe discloses determining a communication path passing through the first domain includes identifying a second domain containing a source element and a destination element, a communication from the source element being signaled from the second domain to the first domain before being signaled to the destination element in the second domain (communications between content servers and clients, see fig.4A, col3 lines 10-46 and col.14 lines 5-64).

As to claim 8, Joffe discloses a method for implementing management policies on a network using a policy server, the method comprising:

identifying a plurality of domains (domain of content servers) in the network, the plurality of domains each including a plurality of network elements (routers) (see abstract, fig.2A, col.9 lines 27-59).

identifying a first domain in the plurality of domains having a cloudification characteristic, the first domain having at least a first management component (first content server 238 fig.2A) and a corresponding interface that forms an edge to the first domain (see col.9 line 60 to col.10 line 33).

Joffe does not specifically disclose characterizing at least a first communication path for communications having an end element within the first domain as being a distance between the corresponding interface to the first domain and the end element, the first communication path passing communications without information loss. However, Boden discloses characterizing at least a first communication path for communications having an end element within the first domain as being a distance between the

corresponding interface to the first domain and the end element, the first communication path passing communications without information loss (using the Routing Information Protocols for exchanging routing information as a distance vector to determine the best routing path between routers, see abstract, fig,1, col.4 lines 19-61 and col.6 lines 5-62). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to implement Boden's teaching into the computer system of Joffe to process data routing because it would have avoided overuse of a particular host by increasing usages of routes with higher metrics in a communications network.

As to claims 9 and 10, Joffe discloses a management policy using the first communication path and storing the first communication path as a data structure defining the distance between the corresponding interface to the first domain and the end element (see figs. 1B, 4B, col.12 line 56 to col.13 line 46 and col.14 lines 5-63).

As to claim 11, Joffe discloses identifying a plurality of management components, each management component having a corresponding interface and forming an edge for at least one domain (see fig.3A-3C, col.11 line 26 to col.12 line 54).

As to claim 12, Joffe discloses identifying a plurality of network elements that are interconnected between one or more interfaces of management components (see fig.3A-3C, col.11 line 26 to col.12 line 54).

As to claim 13, Joffe further discloses identifying a plurality of firewall components (each system gateway having a firewall), each firewall component having a corresponding interface and forming an edge for at least one domain (see fig.1C, col.7 lines 12-58).

As to claim 14, Joffe discloses identifying a first domain in the plurality of domains having a cloudifcation characteristic includes determining that the first management component has only one interface to the first domain (see fig.3A-3C, col.11 line 26 to col.12 line 54).

As to claim 15, Joffe discloses determining that each management component for the first domain has multiple interfaces (load component, content software component, see fig.3C) to the first domain, wherein each of the multiple interfaces are configured to forward communications received from a network element within the first domain to another element or interface that is exterior to the first domain (see fig.3A-3C, col.11 line 26 to col.12 line 54).

As to claim 16, Joffe discloses determining that the first domain has only one or two corresponding interfaces that form edges for that domain (see fig.4B, col.9 line 4-47 and col.13 line 46 to col. 14 line 63).

As to claim 17, Joffe discloses a method for implementing management policies on a network using a policy server, the method comprising:

identifying a plurality of domains (content server of fig.2a has multiple domains) in the network, each of the plurality of domains having at least one network element (see abstract, fig.2A, col.9 lines 27-59).

identifying a plurality of cloudified domains from the plurality of domains, each cloudified domain being bounded by a management component and at least one interface for the management component (see fig.2A, col.9 line 27 to col.10 line 9).

identifying a source element and a destination element for a communication (identifying the communication path, see col.10 lines 10-64) and defining a plurality of communication paths passing within a first cloudified domain in the plurality of cloudified domains (see col.11 lines 24-65 and col.12 lines 24-53).

Joffe does not specifically disclose each of the plurality of communication paths characterizing the first cloudified domain as a distance between an interface to the first domain and an end point element, the end point element characterizing at least one of the source element and the destination element, each of the plurality of communication paths passing communications within the first cloudified domain without information loss. However, Boden discloses each of the plurality of communication paths characterizing the first cloudified domain as a distance between an interface to the first domain and an end point element, the end point element characterizing at least one of the source element and the destination element, each of the plurality of communication paths passing communications within the first cloudified domain without information loss (using the Routing Information Protocols for exchanging routing information as a distance vector to determine the best routing path between routers, see abstract, fig,1,

col.4 lines 19-61 and col.6 lines 5-62). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to implement Boden's teaching into the computer system of Joffe to process data routing because it would have avoided overuse of a particular host by increasing usages of routes with higher metrics in a communications network.

As to claims 18 and 19, Joffe discloses implementing a management policy using one of the communication paths and implementing a management policy using the selected communication path (choosing the best "server", see fig.3A, col.10 lines 10-64 and col.11 lines 24-65).

As to claim 20, Joffe discloses characterizing one or more of the communication paths as a data structure that defines a distance (determining the eco path) between a network element of that domain and an interface to the management component of that domain (see figs. 1B, 4B, col.12 line 56 to col.13 line 46 and col.14 lines 5-63).

As to claim 21, Joffe discloses characterizing one or more of the communication paths as a first data structure that defines a distance between each network element of that domain and an interface to the management component of that domain (see figs. 1B, 4B, col.12 line 56 to col.13 line 46) and characterizing the one or more communication paths as a second data structure that defines a distance between two or more interfaces that bound that domain (see col.13 lines 10-40 and col.14 lines 5-64).

As to claim 22, Joffe discloses characterizing the communication passing through a second cloudifed domain in the plurality of domains as a node (see col.13 lines 10-46 and col.14 lines 5-64).

As to claim 23, Joffe discloses characterizing the communication passing through a second cloudified domain in the plurality of domains as a node and characterizing the communication passing through a third cloudifed domain in the plurality of domains as a second distance between an interface to the third cloudified domain and an end point element within the third cloudifed domain (see col.13 lines 10-46 and col.14 lines 5-64).

Claim 24 is rejected for the same reasons set forth in claim 17. As to the added limitations, Joffe further discloses:

determining a first data structure for each of the plurality of cloudised domains, the first data structure including a data element that specifies a distance between each network element in that cloudiied domain and the at least one interface for the one or more management component that bound that cloudified domain and determining a second data structure for each of the cloudifed domains (determining the best path communications and storing the path information in the directory server 250 fig.2C, see see col.11 lines 24-65 and col.12 lines 24-53).

Joffe does not specifically disclose the second data structure including a data element that specifies a distance between each of the interfaces of the one or more

management components that bound the cloudified domain and storing the first data structure and the second data structure. However, Boden discloses the second data structure including a data element that specifies a distance between each of the interfaces of the one or more management components that bound the cloudified domain and storing the first data structure and the second data structure (using the Routing Information Protocols for exchanging routing information as a distance vector to determine the best routing path between routers, see abstract, fig,1, col.4 lines 19-61 and col.6 lines 5-62). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to implement Boden's teaching into the computer system of Joffe to process data routing because it would have avoided overuse of a particular host by increasing usages of routes with higher metrics in a communications network.

As to claim 25, Joffe discloses accessing the first data structure and the second data structure to determine a first path for passing communications without information loss within at least one of the cloudified domains (see col.13 lines 10-46 and col.14 lines 5-64).

As to claim 26, Joffe discloses determining a plurality of paths for passing communications without information loss within the at least one of the cloudifed domains using the first data structure and the second data structure, and selecting a

first path from the plurality of paths (see figs. 2B, 4B, col.12 line 56 to col.13 line 46 and col.14 lines 5-63).

As to claim 27, Joffe discloses accessing the first data structure and the second data structure to determine a plurality of paths for passing communications without information loss within the at least one of the cloudifed domains, and selecting a first path from the plurality of paths having a smallest distance (shortest path) for passing the communications (see figs. 2B, 4B, col.12 line 56 to col.13 line 46 and col.14 lines 5-63).

Claims 28-33 are rejected for the same reasons set forth in claims 24-27, 1 and 8 respectively.

Allowable Subject Matter

4. Claims 5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other prior art cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Britt, US pat. No.6,298,044.

b. Joens, US pat. No.6,115,753.

Response to Arguments

6. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Claims 1-4, 6 and 8-33 are **rejected**.

8. Claims 5 and 7 are *objected* to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Dinh whose telephone number is (571) 272-3936. The examiner can normally be reached on Monday through Friday from 8:00 A.m. to 5:00 P.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung, can be reached on (571) 272-3939. The fax phone number for this group is (703) 872-9306.

A shortened statutory period for reply is set to expire THREE months from the mailing date of this communication. Failure to response within the period for response will cause the application to become abandoned (35 U. S. C . Sect. 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(A).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khanh

Khanh Dinh
Patent Examiner
Art Unit 2151
5/15/2005